Treatment and Triggers

Within the lifecycle cost analysis performed by dTIMS CT, dTIMS CT uses treatments to slow down the deterioration of the infrastructure, to correct minor deterioration, to rehabilitate moderate amounts of deterioration, and to replace infrastructure that has deteriorated to the point where repair and rehabilitation are no longer cost effective. Within dTIMS, the following treatments have been implemented:

CULVERT_REHAB

A culvert rehabilitation treatment is the same as a concrete repair treatment but accounts for more extensive damage and deterioration.
Treatment is triggered when:
Culver Condition >= 4 And Culvert Condition <= 5
Treatment cost is calculated as:
$250,000 * 1.75 multiplier and adjusted for inflation

CULVERT_REPLACE

A culvert replacement treatment involves replacing the entire culvert with a new box or pipe using prefabricated components.
Treatment is triggered when:
Culver Condition <= 4 And Sufficiency Rating <= 55.0
Treatment cost is calculated as:
$750,000 * 2.00 multiplier and adjusted for inflation

DECK_MINOR_REHAB

The deck repair treatment includes repairing minor cracks and spalls, repairs to the joints and sealing the deck surface with polymer or asphalt overlay.
Treatment is triggered when:
Deck Condition >= 5 And Deck Condition <= 6
Treatment cost is calculated as:
Deck Area * $25.00 * 1.50 multiplier and adjusted for inflation

DECK_REPLACEMENT

The deck replacement treatment includes replacing the deck using prefabricated and accelerated bridge construction practices.
Treatment is triggered when:
Deck Condition <= 4 or Superstructure Condition <= 4
Treatment cost is calculated as:
Deck Area * $85.00 * 2.00 multiplier and adjusted for inflation

SUPERSTRUCTURE_PAINT

The preventive maintenance treatment on Superstructure includes sealing concrete girders and repairing minor paint defects and topcoat steel girders.
Treatment is triggered when:
Superstructure Condition >= 5 And <=6 And Sufficiency Rating >= 55.0
Treatment cost is calculated as:
Deck Area * $20.00 * 1.50 multiplier and adjusted for inflation

SUPERSTRUCTURE_MINOR_REHAB

The superstructure rehabilitate treatment includes repairing cracks and spalls to the bridge components straightening and repairing steel and concrete from collision damage, repairing pins, hangers and other components as well as a replacement of the paint system and strengthening girders as necessary.
Treatment is triggered when:
Superstructure Condition >= 5 And Superstructure Condition <= 6
Treatment cost is calculated as:
Deck Area * $45.00 * 1.75 multiplier and adjusted for inflation

STRUCTURE_REPLACEMENT

The replace structure treatment replaces the entire structure using prefabricated and accelerated bridge practices.

Treatment is triggered when:
Condition values <= 4 or sufficiency <= 55.
Treatment cost is calculated as:
Deck Area * $300.00 * 2.00 multiplier and adjusted for inflation